

IN THE SPECIFICATION

Please amend the paragraph beginning at line 10 of page 6 as follows:

--The electrode 48, which is the output of the RF amplifier 38, is coupled to the broadband filter 40. The electrode 48 is also coupled through a phase compensated divider 52 to an input 54 of an amplifier 56. The input 54, for example, may be a negative input of the amplifier 56. The phase compensated divider 52 attenuates the voltage at the electrode 48 to a level comparable to the voltage at the electrode 50 and compensates for any phase shift caused by the RF amplifier 38. The phase compensated divider 52 includes a resistor 58, a capacitor 62, and a resistor 64. The resistor 58 and the capacitor 62 are coupled in parallel, and the parallel combination of the resistor 58 and the capacitor 62 couples the electrode 48 through a DC decoupling capacitor 60 to the input 54 of the amplifier 56. The resistor 64 is coupled on one end to a junction of the resistor 58 and the DC decoupling capacitor 60 and on the other end to ground.--

Please amend the paragraph beginning at line 13 of page 10 as follows:

--The signal at the output of the wideband filter 114 is amplified by an ~~first~~ IF amplifier 116. The signal at the output of the ~~first~~ IF amplifier 116 is supplied to a narrowband ~~first~~ IF filter 118 arranged to filter out signal components having frequencies outside of a selected range. For example, for television applications, the narrowband ~~first~~ IF filter 118 ideally filters out all undesired signal components having frequencies outside of the frequency range of ± 3 MHz from the first IF center frequency. This range depends on the technology that is used and the quality (cost) of the narrowband ~~first~~ IF filter 118.--

Please amend the paragraph beginning at line 1 of page 11 as follows:

--The output of the narrowband ~~first~~ IF filter 118 is provided to one input of a second downconverting mixer 120 which also receives a local oscillator signal L02 from a local oscillator. The second downconverting mixer 120 mixes the signal from the narrowband ~~first~~ IF filter 118 with the local oscillator signal L02 to produce a final output IF signal usually around 44 MHz.--

Please amend the paragraph beginning at line 8 of page 11 as follows:

--The ~~first~~ IF amplifier 116 includes a transistor 122 having a gate 124 coupled to the output of the wideband filter 114. The transistor 122 also has electrodes 126 and 128. These electrodes may be drain and source electrodes in the case where the transistor 122 is a field effect transistor as shown in Figure 3. However, the transistor 122 may be any other suitable type of transistor or amplifier.--

Please amend the paragraph beginning at line 16 of page 11 as follows:

--The electrode 126 of the ~~first~~ IF amplifier 116 is coupled to the input of the narrowband ~~first~~ IF filter 118. The electrode 126 is also coupled through a phase compensated divider 130 to an input 132 of an amplifier 134. The input 132, for example, may be a negative input of the amplifier 134. The phase compensated divider 130 attenuates the voltage at the electrode 126 to a level comparable to the voltage at the electrode 128 and compensates for the phase shift caused by the ~~first~~ IF amplifier 116. The phase compensated

divider 130 includes a resistor 136, a capacitor 138, a DC decoupling capacitor 140, and a resistor 142. The resistor 136 and the capacitor 138 are coupled in parallel, and the parallel combination of the resistor 136 and the capacitor 138 couples the electrode 126 through the DC decoupling capacitor 140 to the input 132 of the amplifier 134. One end of the resistor 142 is coupled to the junction between the resistor 136 and the DC decoupling capacitor 140, and the other end of the resistor 142 is coupled to ground.--

Please amend the paragraph beginning at line 12 of page 12 as follows:

--The electrode 128 of the transistor 122 is coupled through another DC decoupling capacitor 144 to an input 146 of the amplifier 134, and is also coupled to ground through a resistor 148 to provide resistive series feedback and to close the DC circuit of the transistor 122 to ground. The input 146, for example, may be a positive input of the amplifier 134. A resistor 152 and a DC decoupling capacitor 154 are coupled in series between the gate 124 and the electrode 126 of the transistor 122 to provide parallel resistive feedback for the ~~first~~ IF amplifier 116.--

Please amend the paragraph beginning at line 8 of page 13 as follows:

--The detected signal at the output of the detector 156 is used to control the attenuator 104 such that the RF signal is attenuated in order to prevent overloading of the mixers 112 and 120. The voltage on the electrode 126 directly is the output voltage of the ~~first~~ IF amplifier 116, and the voltage on the electrode 128 is proportional to the current in the ~~first~~ IF amplifier 116. Therefore, the amplifier 134 receives two signals, a first signal representing the voltage of the attenuated signal (i.e., a properly scaled down voltage from the voltage at the output of the ~~first~~ IF amplifier 116), and a second signal representing the current of the attenuated signal. These first and second signals provided by the ~~first~~ IF amplifier 116 complement each other and together represent closely the incident power at the output of the ~~first~~ IF amplifier 116. These first and second signals are combined by the amplifier 134 and used to control the attenuator 104.--

Please amend the paragraph beginning at line 3 of page 14 as follows:

--Variation in the input impedance of the narrowband ~~first~~ IF filter 118 is compensated because the first and second signals provided by the ~~first~~ IF amplifier 116 complement each other as the impedance of the narrowband ~~first~~ IF filter 118 varies. For example, as the input impedance Z of the narrowband ~~first~~ IF filter 118 increases, the signal on the electrode 126 increases while the signal on the electrode 128 decreases, thereby stabilizing control of the attenuator 104.--

Please amend the paragraph beginning at line 6 of page 15 as follows:

--Certain modifications of the present invention have been discussed above. Other modifications will occur to those practicing in the art of the present invention. For example, a single conversion tuner ~~202~~ 200 as depicted in Figure 4 could be economically designed in the conventional way with a varactor tuned single tuned first RF filter 202, an AGC-able RF amplifier 204, a varactor tuned double tuned second RF filter 206, an active Gilbert cell mixer 208, LO, a

wideband IF filter 210, a narrow band IF filter 212, and a SAW driver 214 coupled to a SAW 216. The new parts inserted into the otherwise standard single conversion tuner 200 would be an IF preamp stage 218 in front of the narrow band IF filter 212 to provide simultaneously the two taps for the AGC voltage and current signals. The two AGC signals are coupled to the symmetric input terminals of an amplifier 220 driving a detector 222.--